Agenda

- Introductions
- About Nemertes
- Megatrends
- Paradigm Shift: IT to ET
- From Strategy to Technology
- The Network = The Foundation
- Recommendations
- Addendum

About Nemertes

⊕ US-based research and consulting firm specializing in **evaluating the business impact of emerging technologies**

UC and Collaboration	Mobile and Network Services	Big Data, Analytics, and Virtualization	Security and Compliance	Contact Center and Customer Engagement

ET Innovation, Transformation	Enterprise Trusted Advisor	Cost Models and Total Cost of Ownership	Cloud Delivery
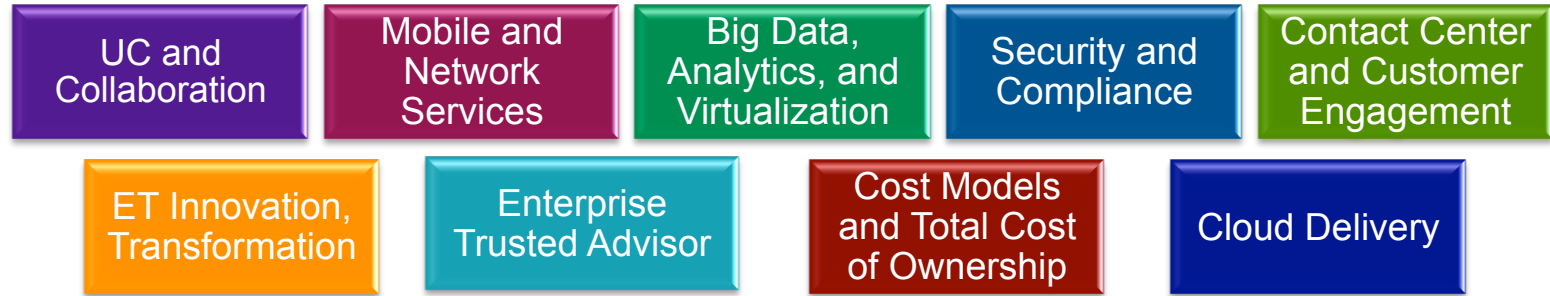
⊕ The _only_ research firm that consistently <u>benchmarks</u> 200+ IT organizations

⊕ Staffed by <u>former IT and business practitioners</u> with 20+ years experience

⊕ Organized to deliver <u>customized research findings</u> to clients in real-time

⊕ <u>Independent and objective</u>: We serve only our clients. No investment from, no stock in, no board positions on companies we cover

⊕ Founded in 2002; consistently profitable

⊕ Registered Women-Owned Business

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About the Benchmark

About the Research

- Hypothesis-driven research into trends, technologies, operations, and best practices for emerging technologies

- In-depth interviews with a total of 201 IT organizations

- 17 vertical industries, including for-profit and not-for-profit

- Range of company sizes (see next slide)

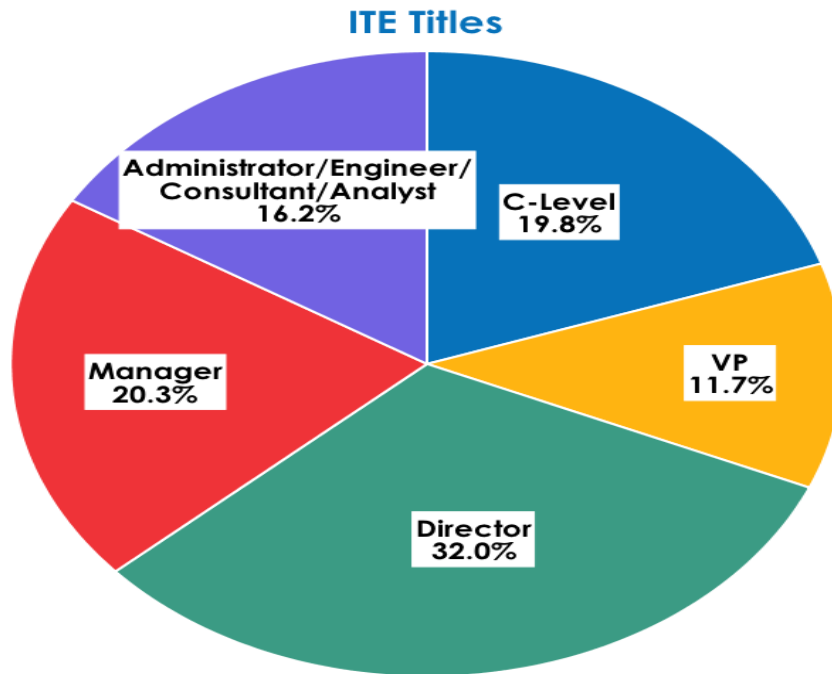- 51% have global operations

Breakdown by Size

- By Revenue
  - Small = $300 million or less
  - Midsize = $300.1 million to $1 billion
  - Large = $1.01 billion to $10 billion
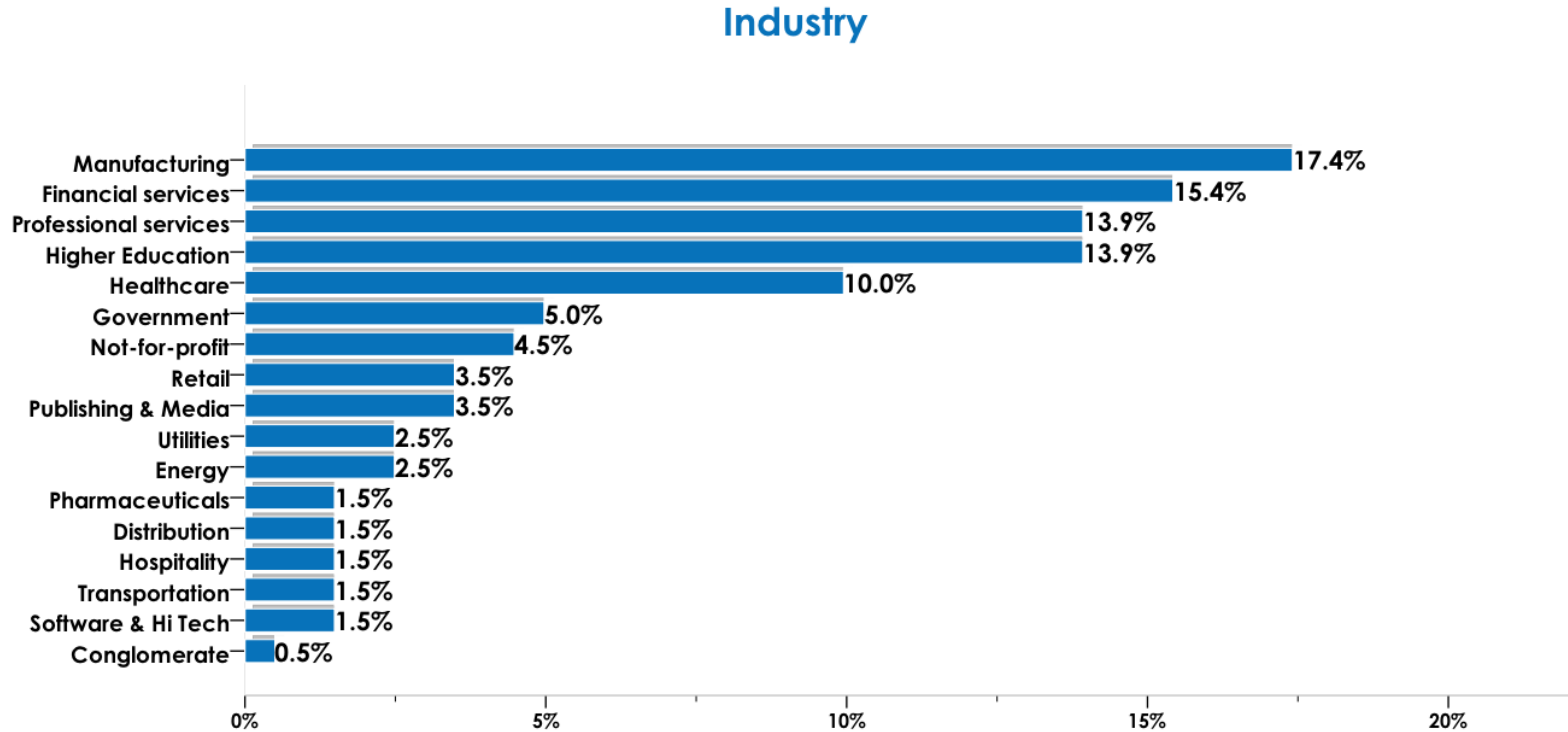 - Very Large = Greater than $10 billion

- By Employees
  - Small = 250 employees or less
  - Midsize = 251 to 2,500 employees
  - Enterprise= More than 2,500 employees

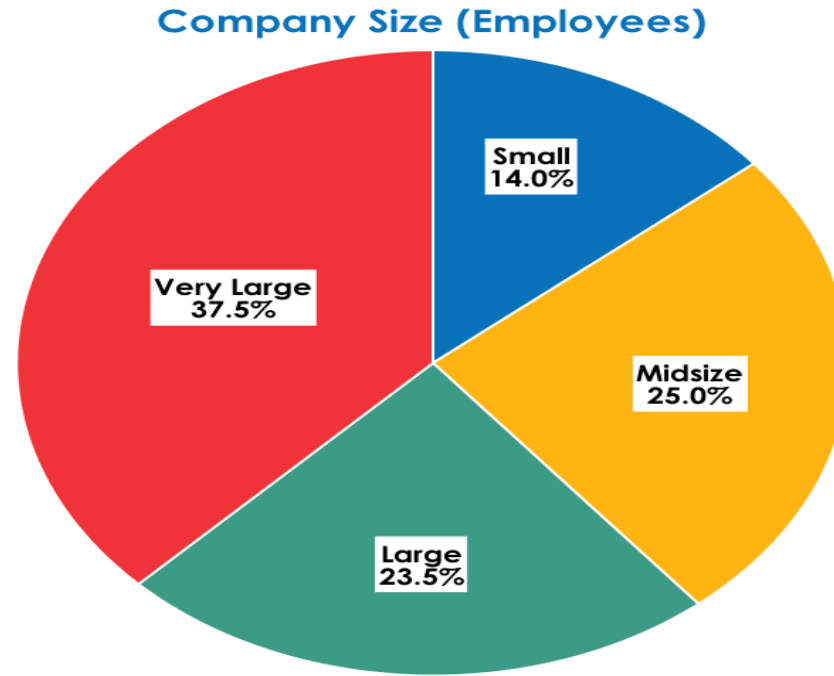nemertes
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Benchmark Participants: IT Titles

ITE Titles

- Administrator/Engineer/Consultant/Analyst 16.2%
- C-Level 19.8%
- VP 11.7%
- Director 32.0%
- Manager 20.3%

Industry

Industry	Percentage
Manufacturing	17.4%
Financial services	15.4%
Professional services	13.9%
Higher Education	13.9%
Healthcare	10.0%
Government	5.0%
Not-for-profit	4.5%
Retail	3.5%
Publishing & Media	3.5%
Utilities	2.5%
Energy	2.5%
Pharmaceuticals	1.5%
Distribution	1.5%
Hospitality	1.5%
Transportation	1.5%
Software & Hi Tech	1.5%
Conglomerate	0.5%

Benchmark Participants: Size (Employees)

Company Size (Employees)

- Small 14.0%
- Very Large 37.5%
- Midsize 25.0%
- Large 23.5%

Small = < 250
Midsize = 251 – 2500
Large = 2501 – 10,000
Very Large = > 10,000

Megatrends

- Bulk of IT budgets flat: Do more with less!
- Key practices gaining IT traction
  - Paradigm shift: Information Technology to Enterprise Technology
  - IT as trusted advisor
- Key technologies driving IT mindshare
  - The New WAN: Internet as WAN, Ethernet up; MPLS down
  - Unified Communications: Video, social software, integration of collab apps
  - Mobility: Unified app store, security, IoT
  - Cloud Everything: UC, mobile security, apps

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Paradigm Shift: IT to ET
(*Information Technology to Enterprise Technology*)

IT is Getting Subsumed Into ET

MIS
(1950's/
60s-1980s)

IT
(1990-2010)

ET
(2010+)
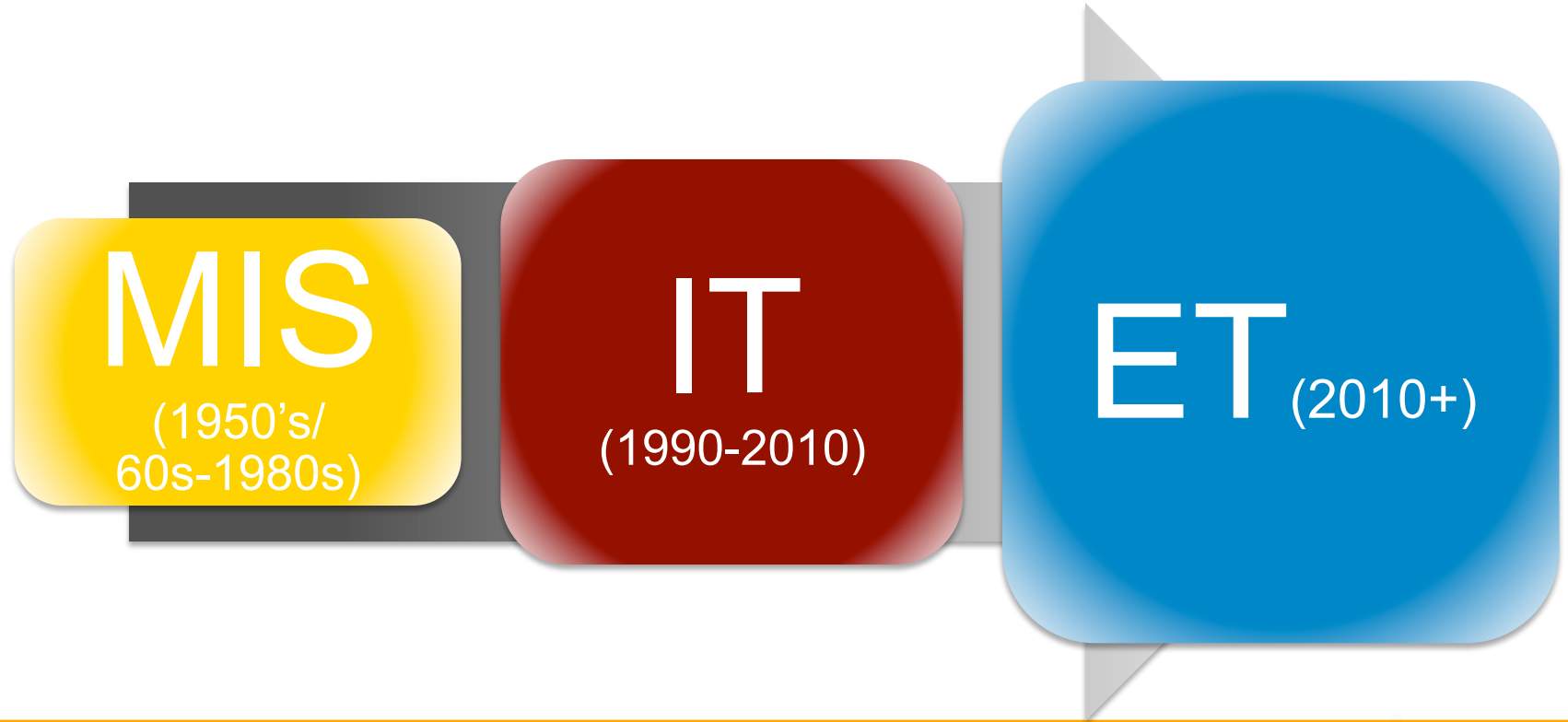
ET is Business-Centric Computing and Communications

	MIS	IT	ET
Benefit	Automate repetitive processes	Distribute information	Manage outside world
Architecture	Centralized/batch mode	Distributed/real time	Embedded/interactive
Key Technologies	Mainframe computers, storage	Desktops, servers, networks	Mobility, cloud, M2M, IoT
Key Disciplines	Design at scale	Integrate and interoperate	Integrate into physical systems, lines of business
Business Value	Reduce data-processing time	Empower knowledge workers	Granular control of processes
Users	Back office (accounting, payroll)	Knowledge/office workers	Field/virtual workers, systems, machines

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ET Changes Everything!

- Relationship between IT and business
- Not just "business" but marketing, sales, manufacturing, shipping, inventory, finance, advertising….
- Dawn of a new era!

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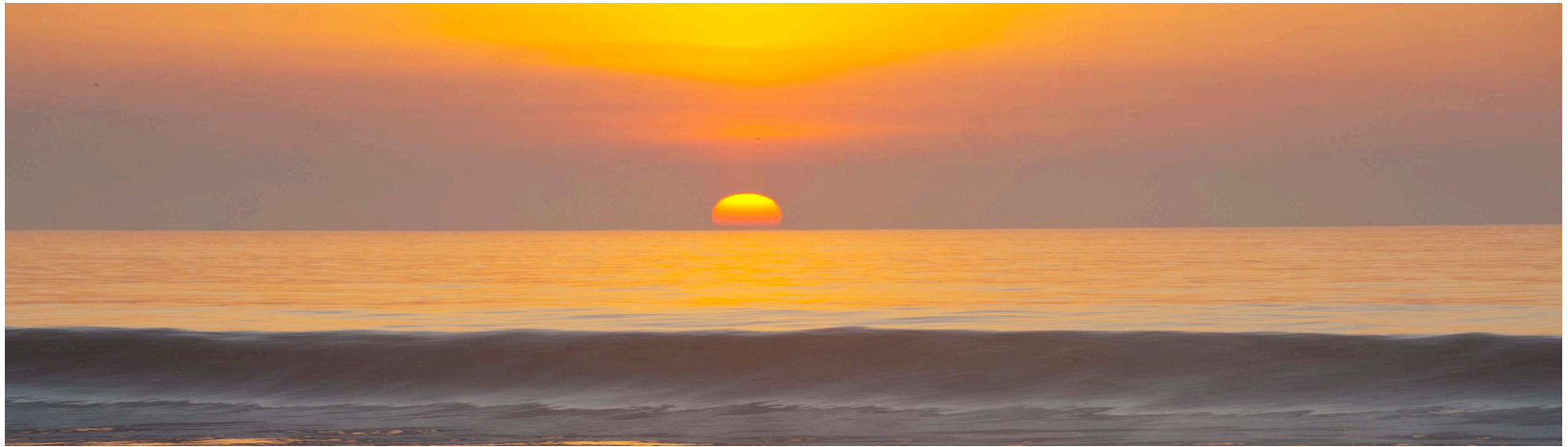
In the New World:

- IT department's core competence lies in understanding and leveraging innovation

- ET centers around transforming the _entire_ business through the use of innovative technologies

- Vendors have a unique role to play "trusted advisors"

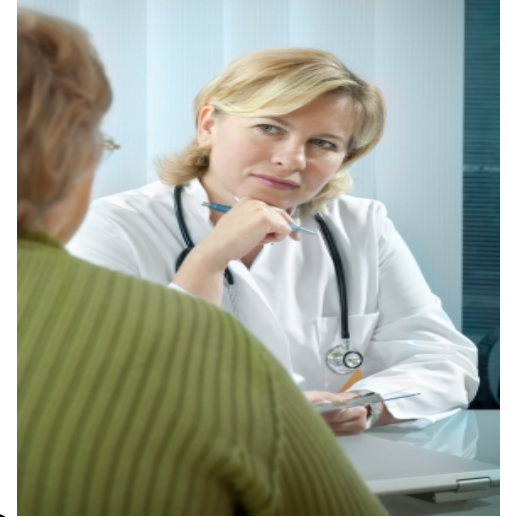nemertes
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IT's Pivotal Role

- IT as the **consumer** of trusted-advisor relationship with vendors, service providers

- IT as the **provider** of trusted-advisor relationship with business units, executive team

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The Trust Spectrum

Life within IT is easier, better here

Commodity Supplier → Strategic Partner → Trusted Advisor

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Why Do You Describe Yourself as a Trusted Advisor?

Category	Percentage
Hold conversations with business units early and often	43.1%
Documented success at helping the business	41.4%
Expertise, expected role in the company	37.9%
Shared vision, partnership	32.8%
Leadership	20.7%
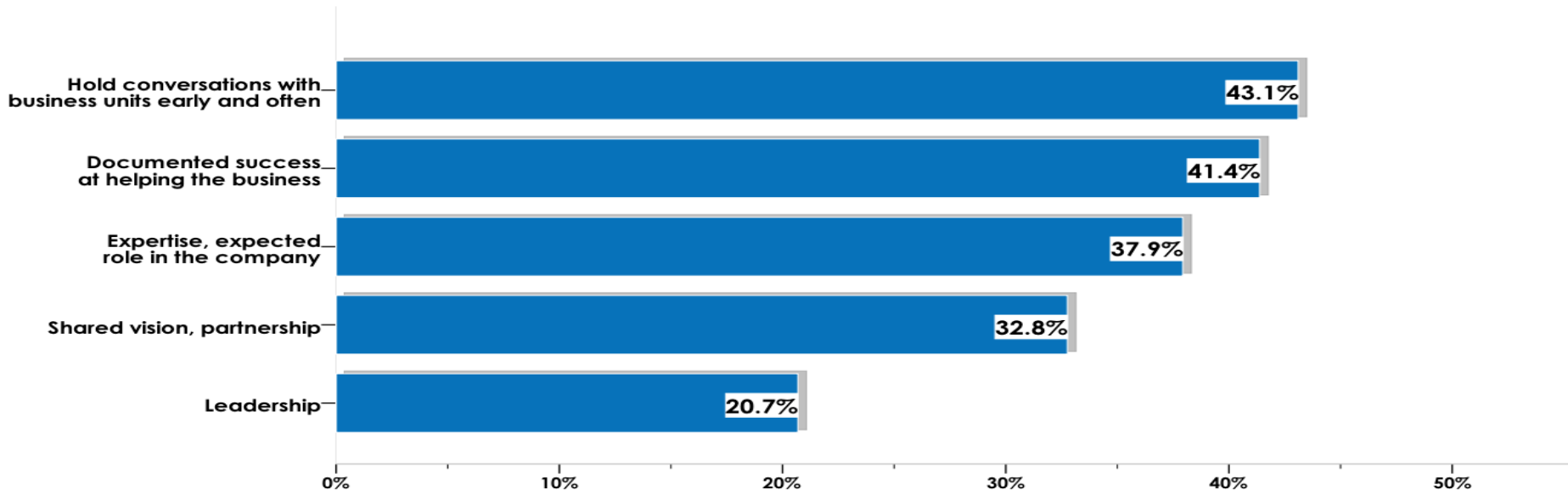
IT Serving as a Trusted Advisor and IT Budget per Employee

Question: On a 1-10 scale, how effective is your team in serving as a trusted advisor?

1 - 3 = Commodity Provider
4 - 7 = Strategic Partner
8 - 10 = Trusted Advisor

Trusted Advisor: $14,663
Strategic Partner: $12,269
Commodity: $7,434

Mean: $12,223
Median: $7,143

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From Strategy to Technology

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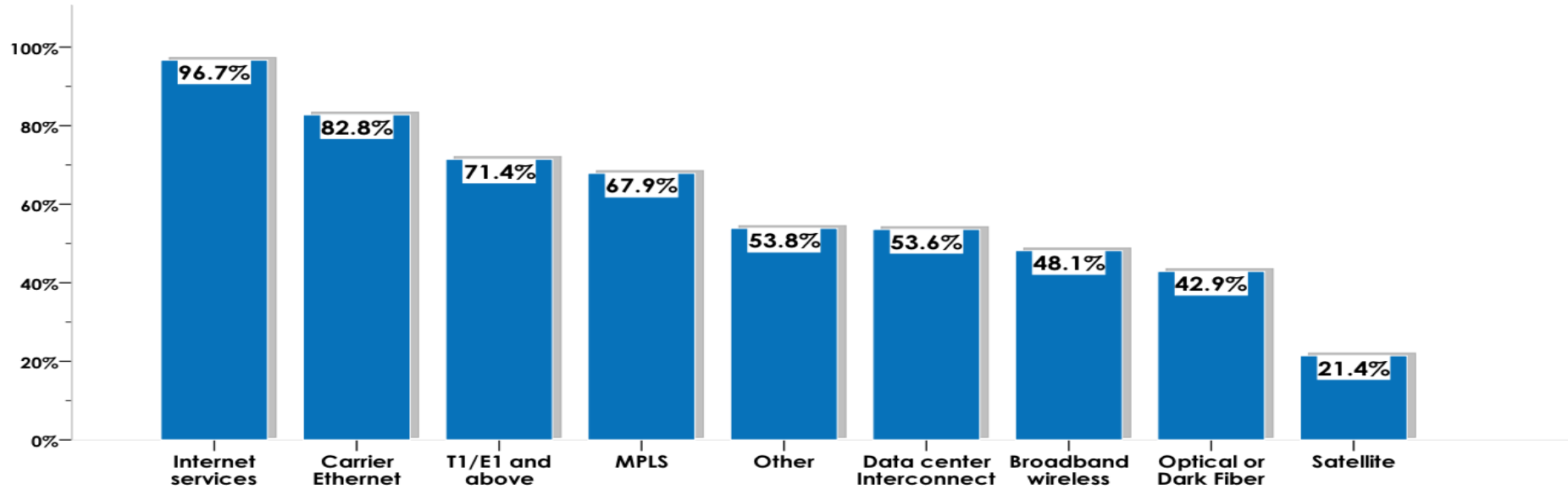# So You Want to be a Trusted Advisor…

- The Tablestakes
  - Solid network network infrastructure supports applications
  - Applications support business requirements
  - Trusted partners support tactical IT functions
  - Internally market what IT is doing
- The Benefits
  - IT has a seat at the table
  - LOBs come to you for advice, problem solving using technology
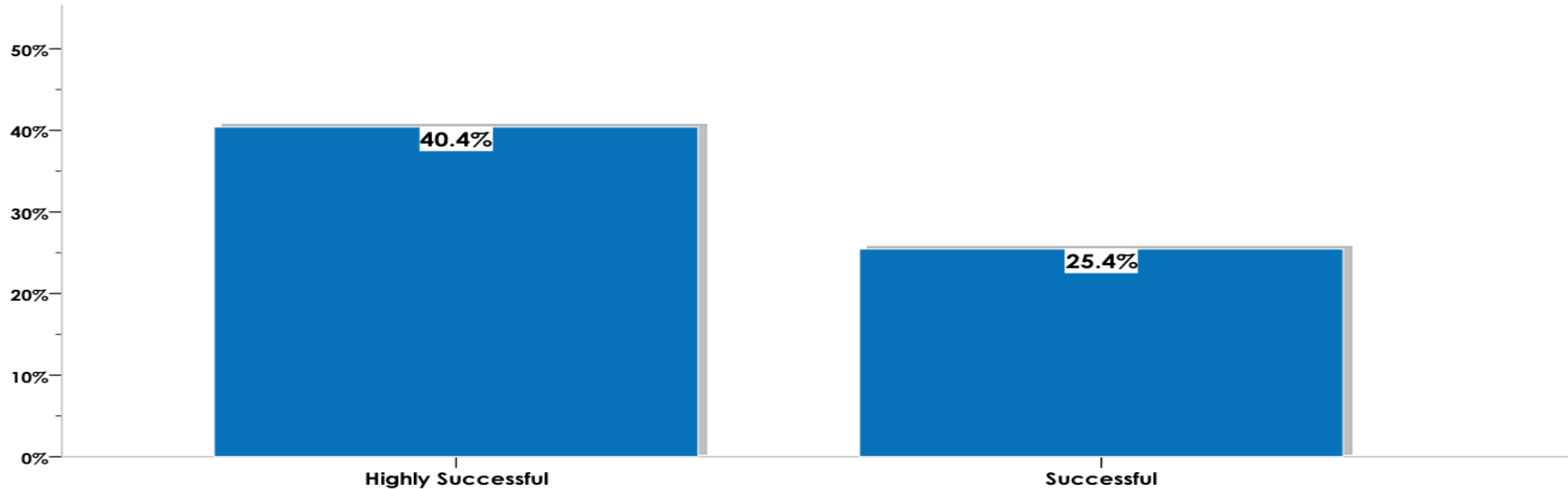 - LOBs *listen* when you request funding not only for apps, but for the network to support those apps

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Most Used Range of Services

Types of Network Connections (2014)

Bar chart showing percentages for each network connection type:
- Internet services: 96.7%
- Carrier Ethernet: 82.8%
- T1/E1 and above: 71.4%
- MPLS: 67.9%
- Other: 53.8%
- Data center Interconnect: 53.6%
- Broadband wireless: 48.1%
- Optical or Dark Fiber: 42.9%
- Satellite: 21.4%

Percent of Sites Using Internet as WAN and IT Success

WAN Spend Per Location and Industry in 2014

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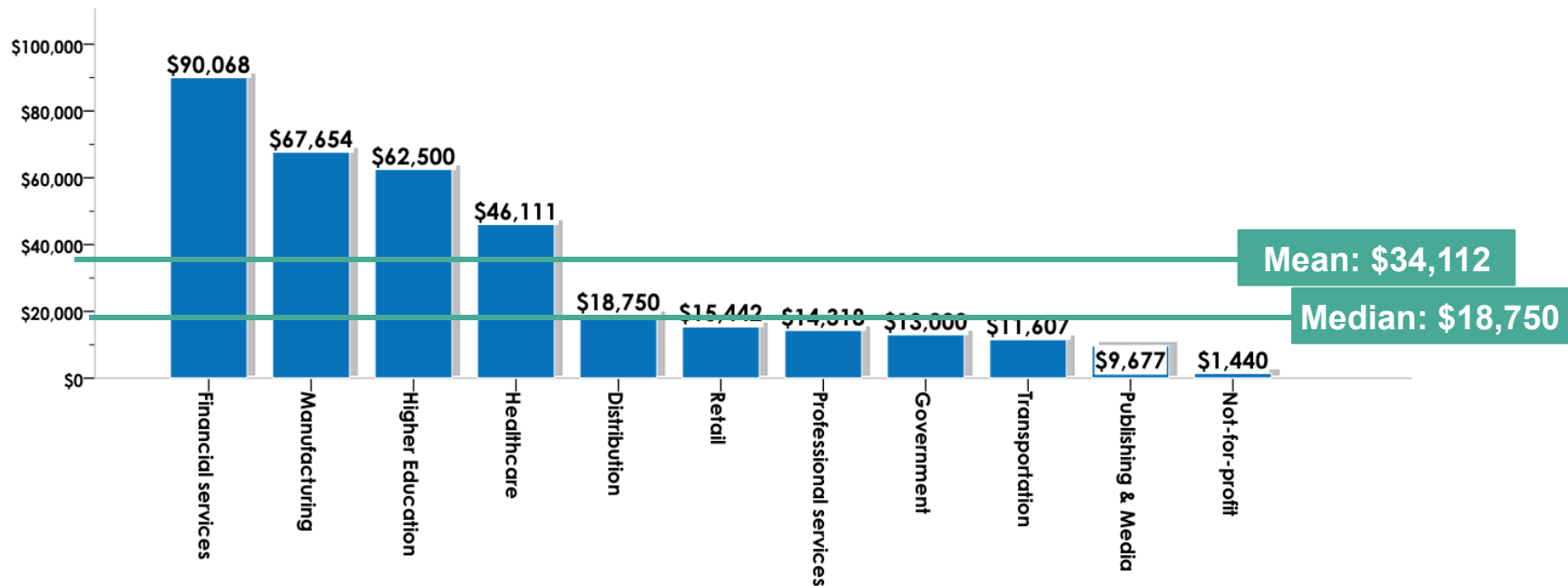
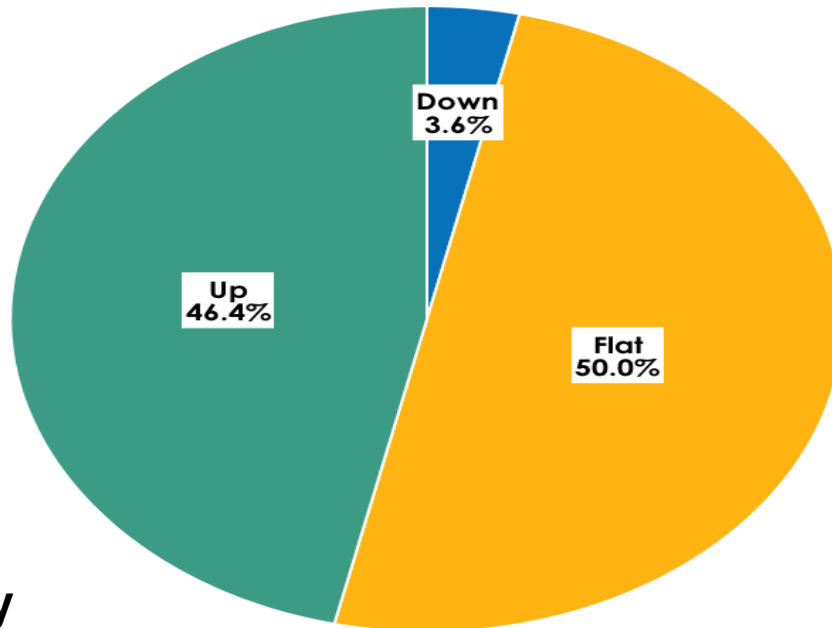# Large Increase for Those Increasing Bandwidth

Bandwidth Change Direction (2015)

Increase:
Mean: 250%

Decrease:
Mean: 20%

Down
3.6%

Up
46.4%

Flat
50.0%

WAN optimization becomes increasingly important!

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No Clear Driver for Bandwidth Growth

Increasing Bandwidth Drivers

Bar chart showing Increasing Bandwidth Drivers:
- Other: 69.2%
- General growth in data traffic: 69.2%
- Video: 46.2%
- Wireless: 15.4%
- Cloud Services: 7.7%

Other:
- VDI
- VOIP
- Telecommuting/remote access
- Data center consolidation
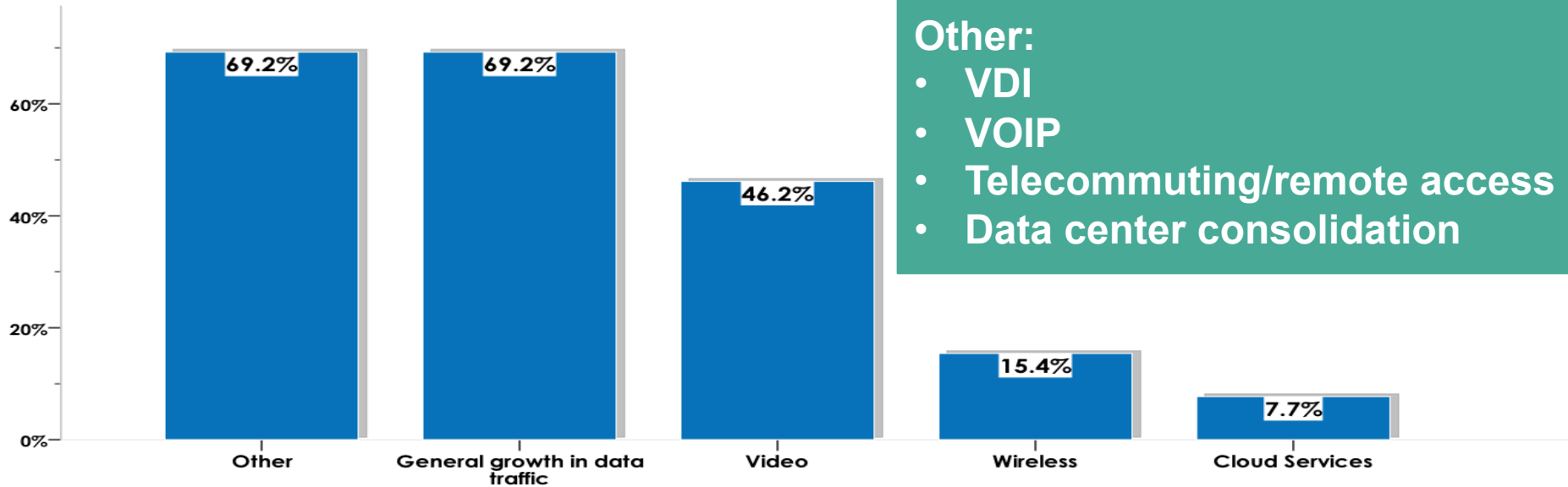
Majority Using, Planning Application Delivery Optimization

Application Delivery Optimization Adoption

No Plans
37.0%
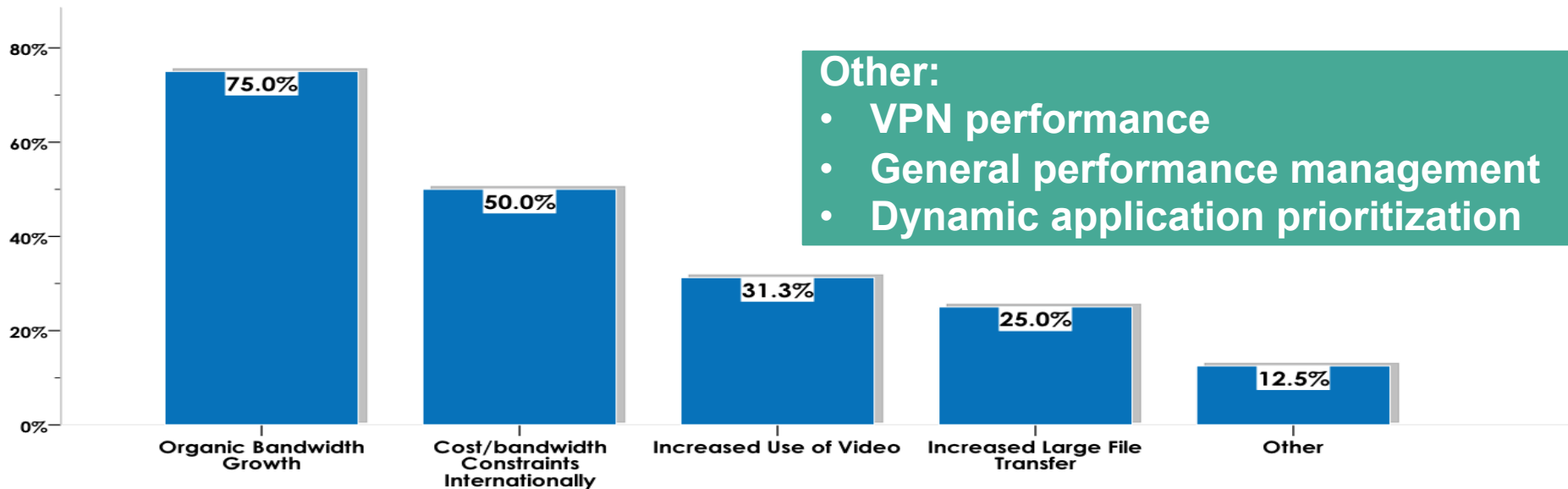
Currently Using
55.6%

Planning for 2014
7.4%
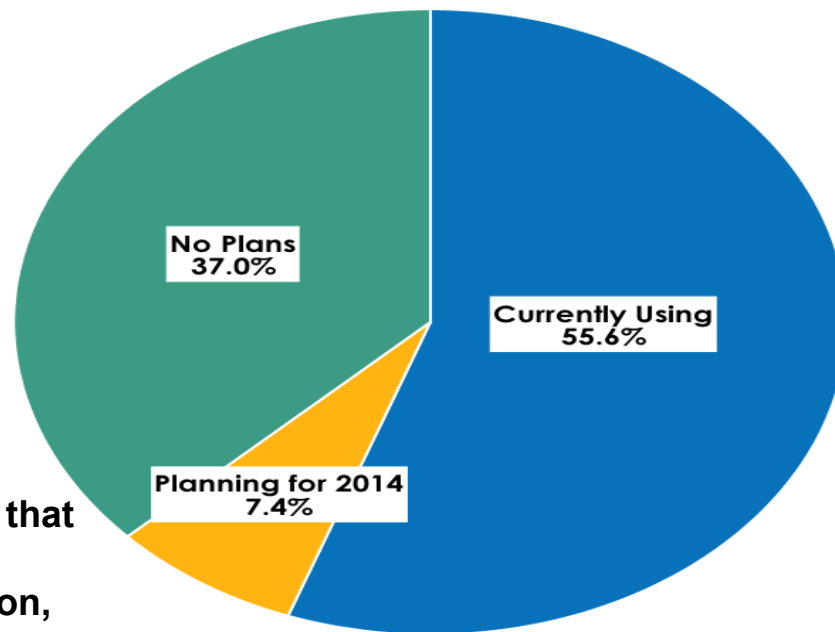
100% device-based

ADO: Solutions and services that enable optimized delivery of applications (WAN optimization, caching, application delivery controllers, etc.)

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ADO Drivers

Other:
- **VPN performance**
- **General performance management**
- **Dynamic application prioritization**

Chart values:
- Organic Bandwidth Growth: 75.0%
- Cost/bandwidth Constraints Internationally: 50.0%
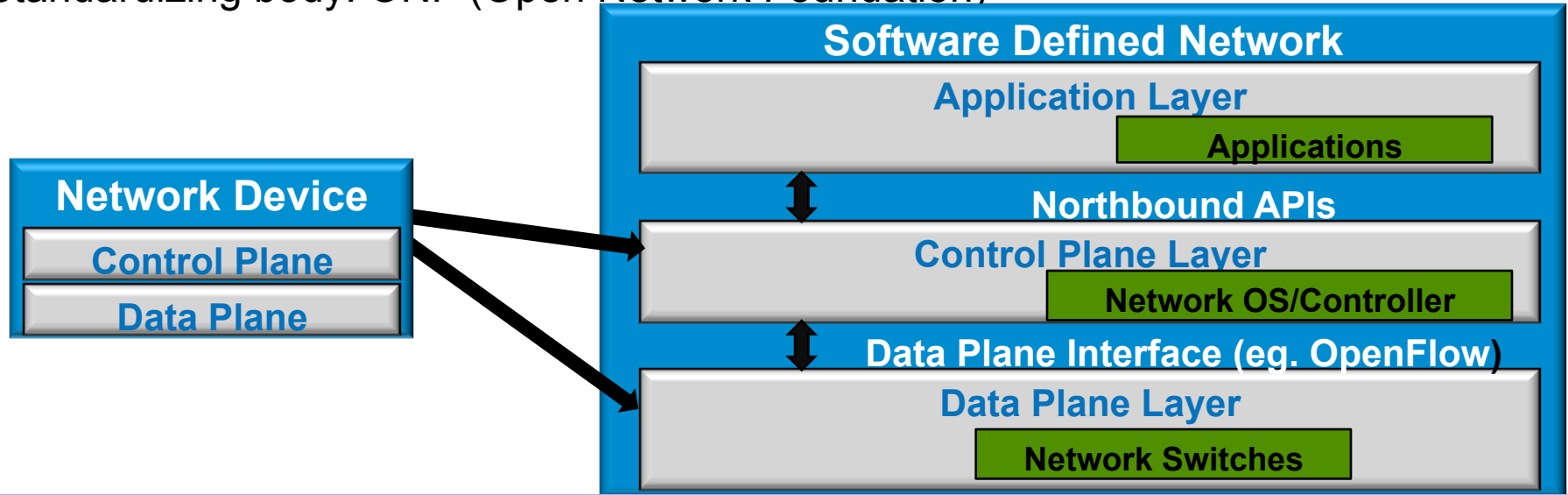- Increased Use of Video: 31.3%
- Increased Large File Transfer: 25.0%
- Other: 12.5%

Software-Defined Network (SDN) Architecture

SDN fundamental concept: Separate data plane from control plane

Standardizing body: ONF (Open Network Foundation)

Software Defined Network

Application Layer

Applications

Northbound APIs

Control Plane Layer

Network OS/Controller

Data Plane Interface (eg. OpenFlow)

Data Plane Layer

Network Switches

Network Device

Control Plane

Data Plane

Northbound APIs make network control information available to network applications such as firewalls or load balancers or cloud orchestration managers

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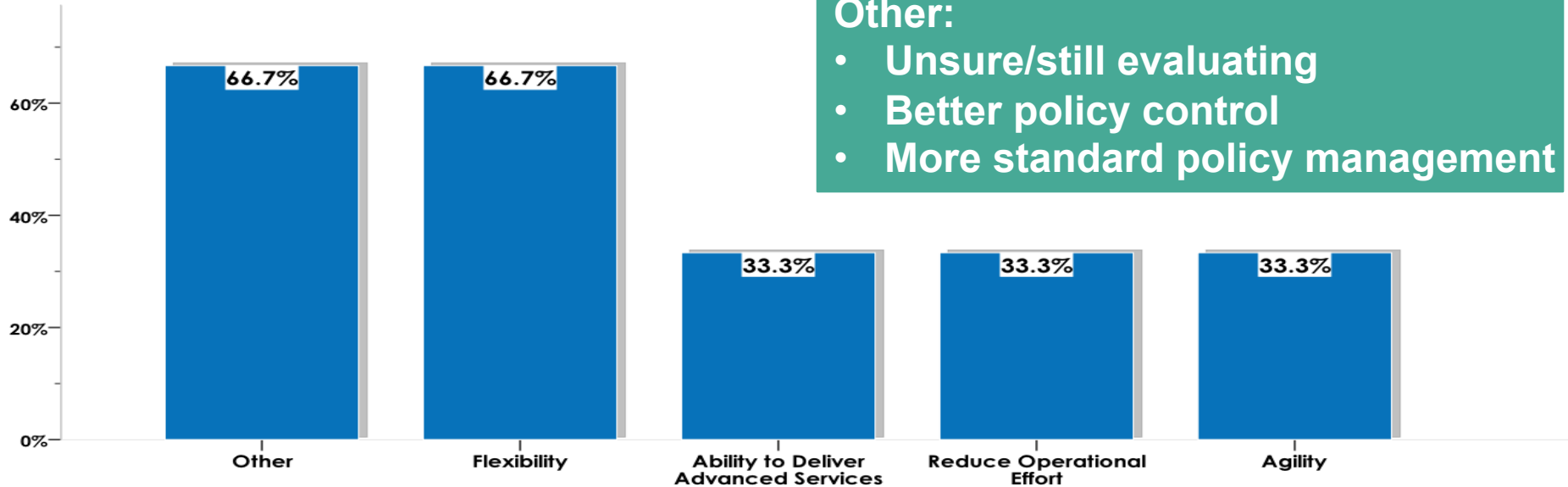INDEPENDENCE INTEGRITY INSIGHT

SDN: Not Ready Yet

Software Defined Network Adoption

- Planning for 2014 4.0%
- Planning for 2015 4.0%
- Evaluating 28.0%
- No Plans 64.0%

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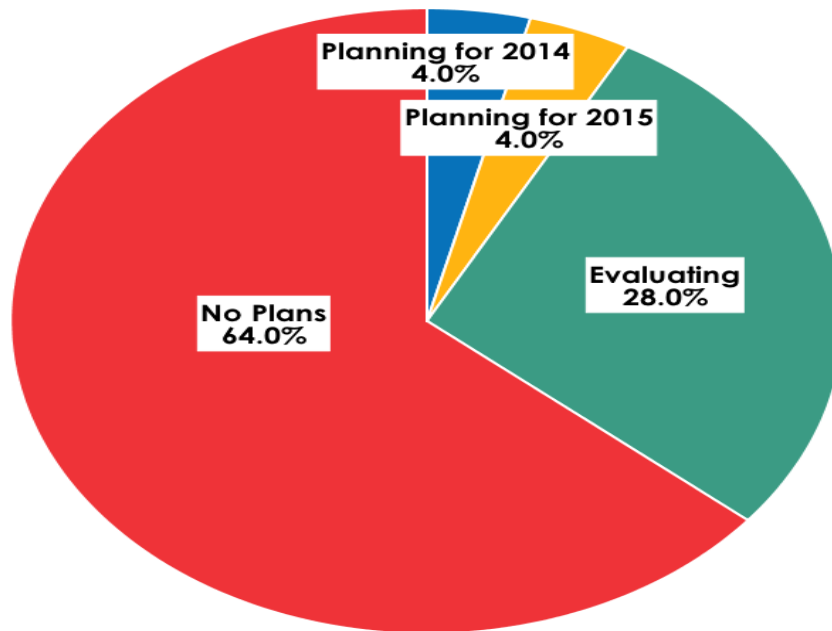
Why SDN? Flexibility

SDN Drivers

Other:
- **Unsure/still evaluating**
- **Better policy control**
- **More standard policy management**

Other	66.7%
Flexibility	66.7%
Ability to Deliver Advanced Services	33.3%
Reduce Operational Effort	33.3%
Agility	33.3%

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The Network = The Foundation
What are the Drivers?

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Cloud UC Adoption

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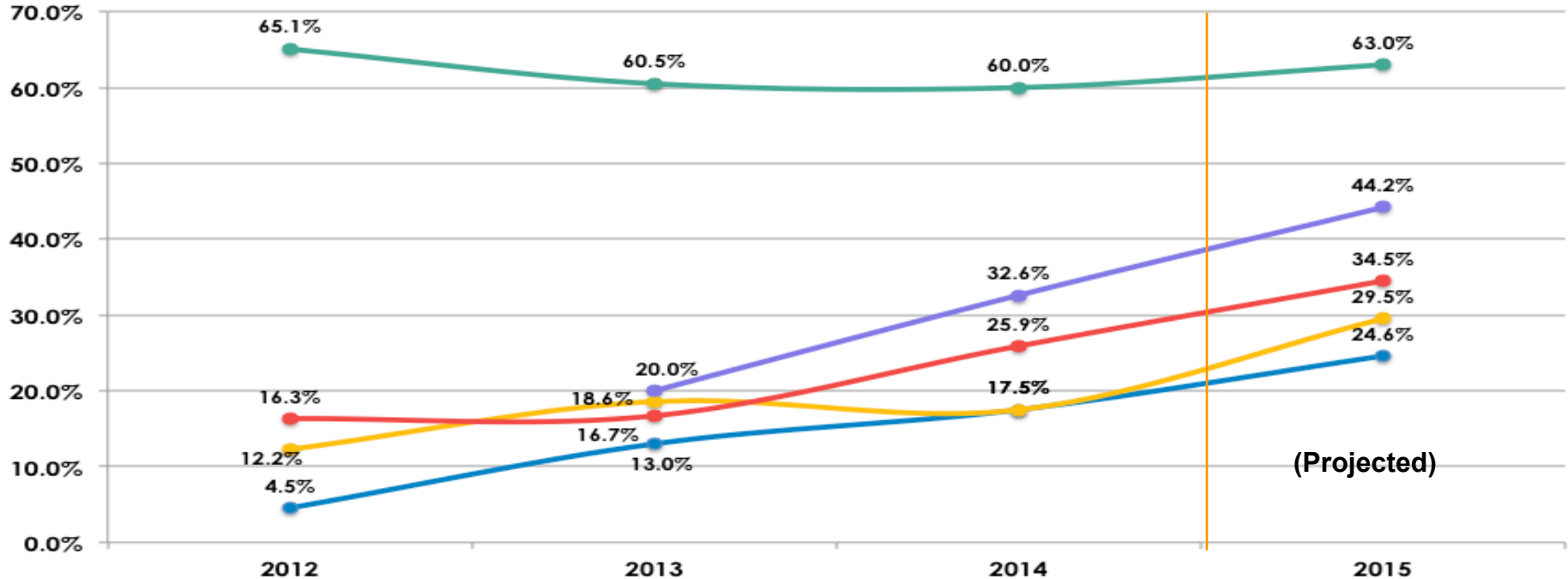
More Than Half Increasing Room Systems

Room Video Conferencing Change

Decrease

Mean: 39.6%
Median: 39.6%

Increase

Mean: 31.7%
Median: 27.3%

Down 6.9%

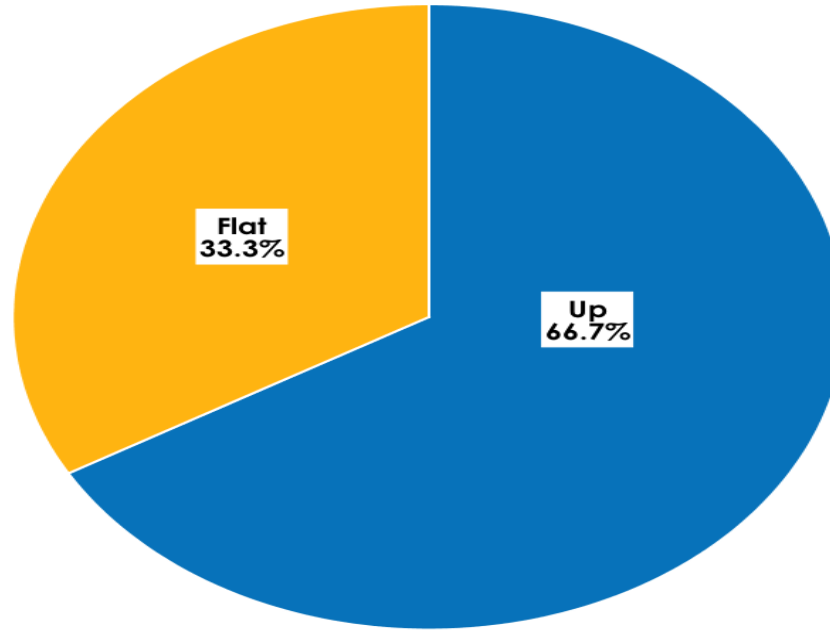Flat 41.4%

Up 51.7%

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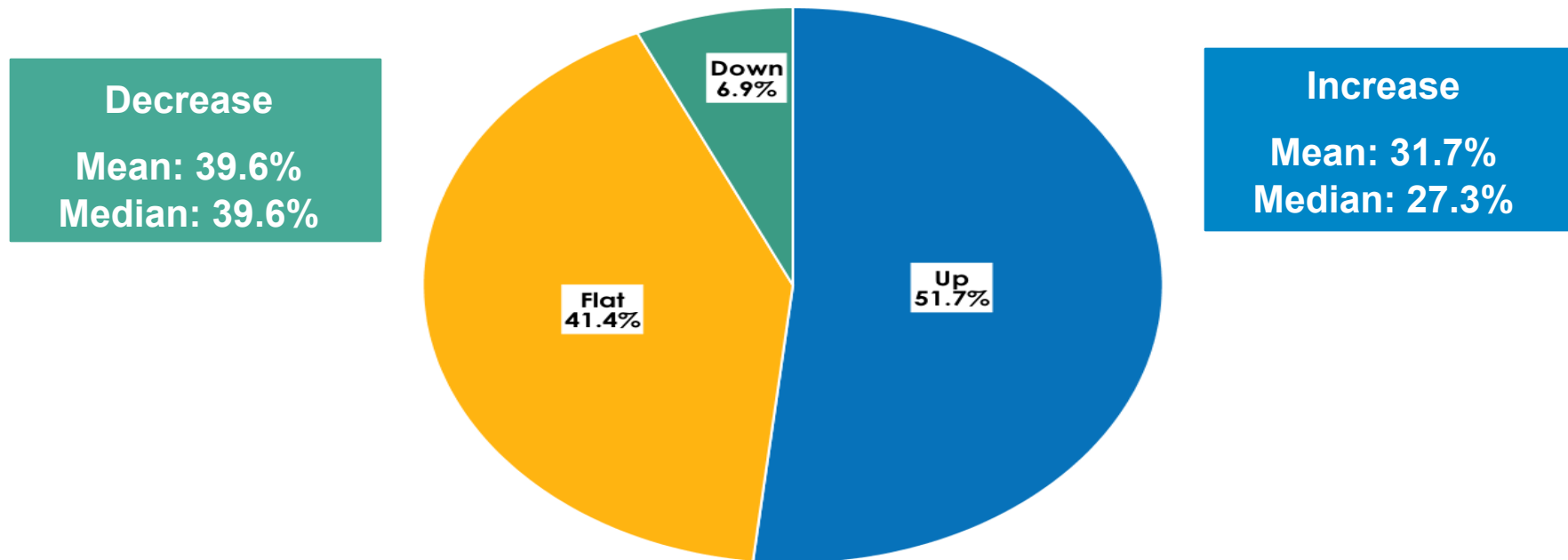
Cloud video services typically offer meet-me conferencing or MCU as fully hosted service. Examples include BlueJeans, Lifesize Cloud, and StarLeaf.

Cloud Video Adoption

- No Plans 52.3%
- Currently Using 20.5%
- Planning for 2014 9.1%
- Planning for 2015 2.3%
- Evaluating 15.9%

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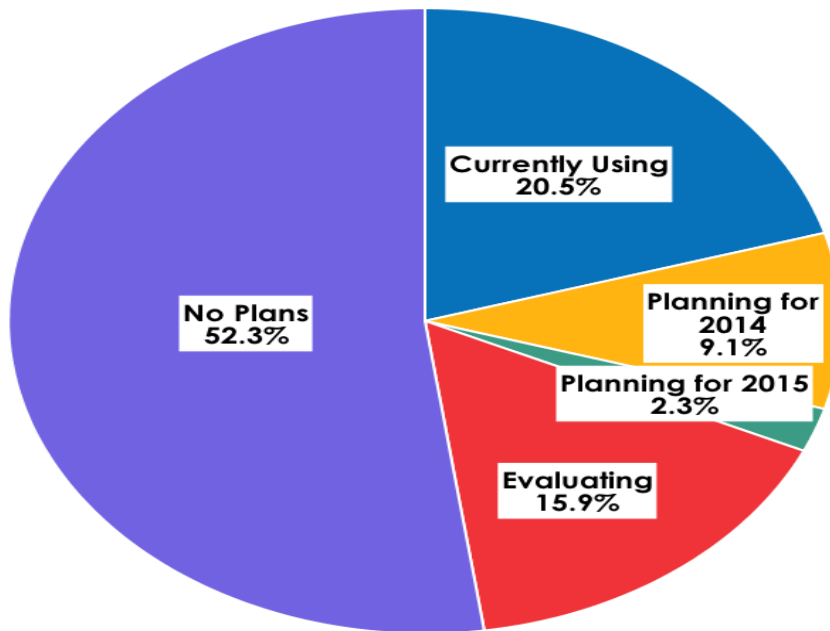
Tablet Video Conferencing Use Growing

Tablet Video Conferencing Use

Flat 33.3%

Up 66.7%

Flat:
- **Poor quality**
- **No demand**
- **No business case**

Up:
- **Will select vendor in 2014**
- **User demand**
- **Specific business cases**

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Just a Quarter With Less Than 2% Desktop Video

Percentage of Employees with Desktop Video
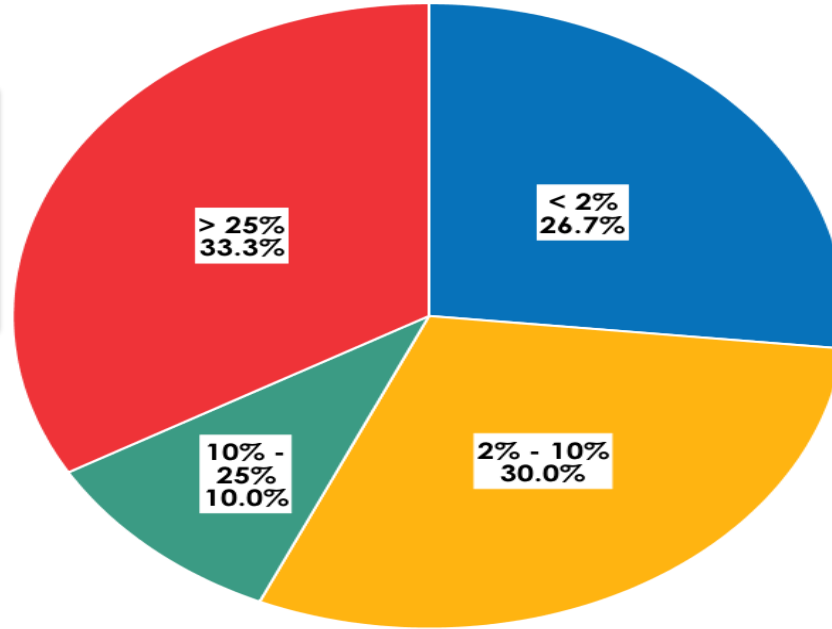
Pie chart segments:
- > 25% — 33.3%
- < 2% — 26.7%
- 2% - 10% — 30.0%
- 10% - 25% — 10.0%

Left box:
- **2012:** >10% = 17%
- **2013:** >2% = 23%

Right box:
- **2012:** >2% = 27.8%
- **2013:** >2% = 43.3%

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WebRTC Adoption

Planning for 2014
3.4%

Planning for 2015
3.4%

Evaluating
24.1%

No Plans
69.0%
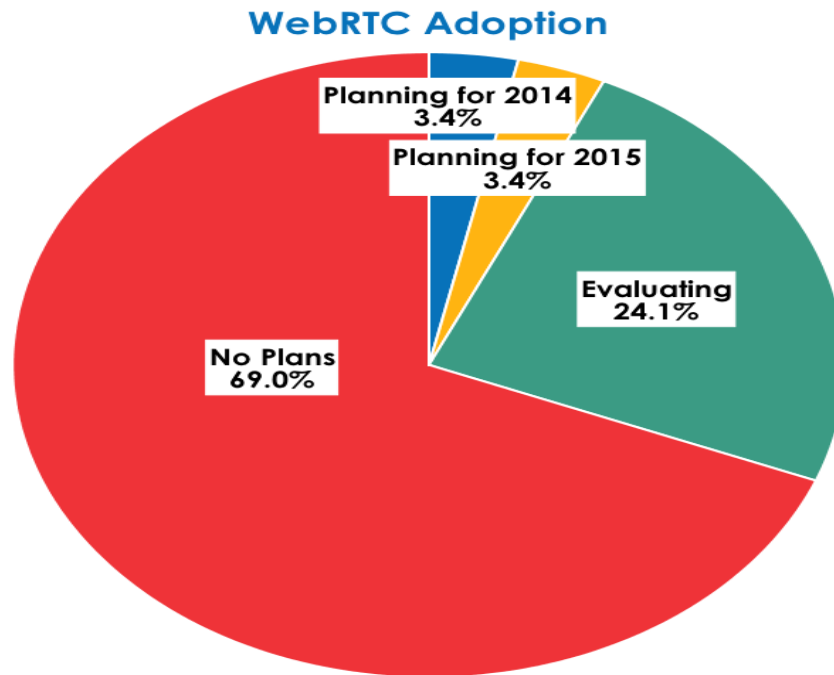
More Than Half Using Secure Document Share (SDS)

Cloud-based File Sync and Share Adoption

- No Plans 25.0%
- Currently Using 53.1%
- Evaluating 15.6%
- Planning for 2015 3.1%
- Planning for 2014 3.1%

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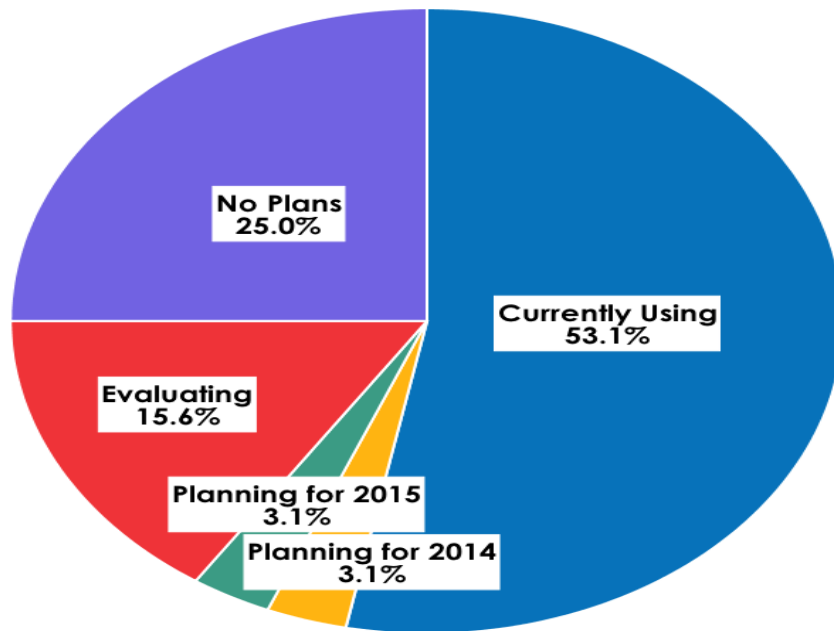
Most Not Replacing On-Prem File Stores

Cloud-based File Sync and Share and File Repository Plans

- Evaluating 10.7%
- Replacing 10.7%
- Augmenting 78.6%

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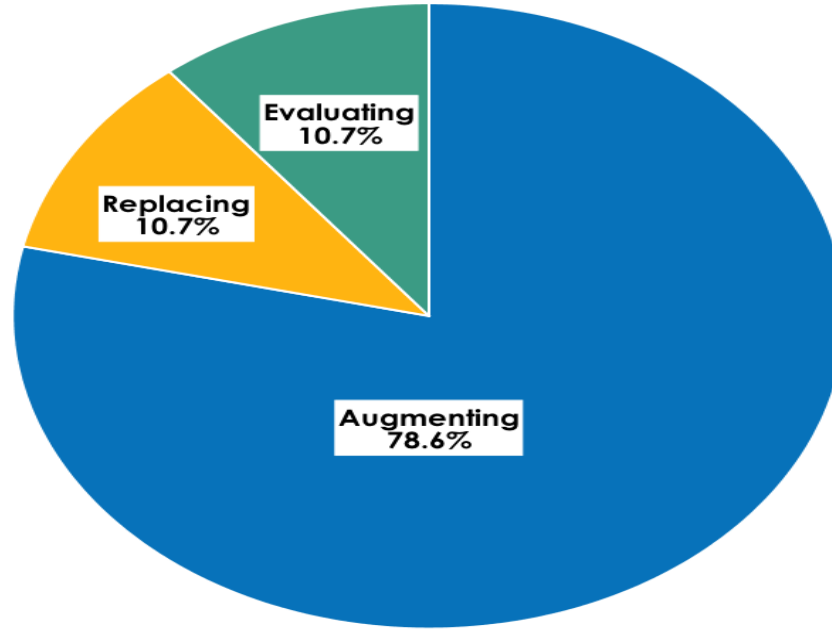
IT Rarely Selects SaaS Applications Now

IT's Role in SaaS App Selection

- Advise 11.1%
- Select 29.6%
- Advise and consent 59.3%

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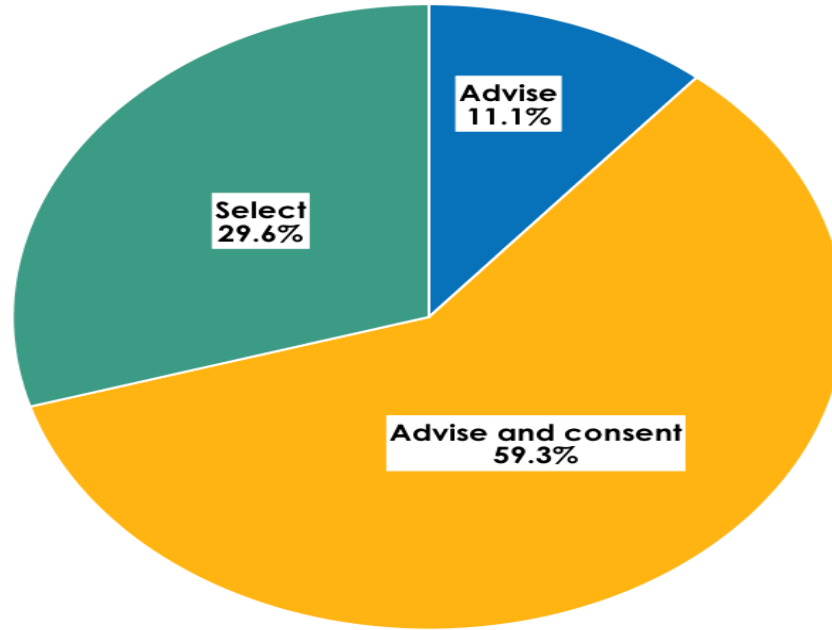
IT Always Supports SaaS, Usually Beyond Basic Triage

IT's Involvement in SaaS App Support

Basic service desk triage
29.2%

Higher level support as well
70.8%

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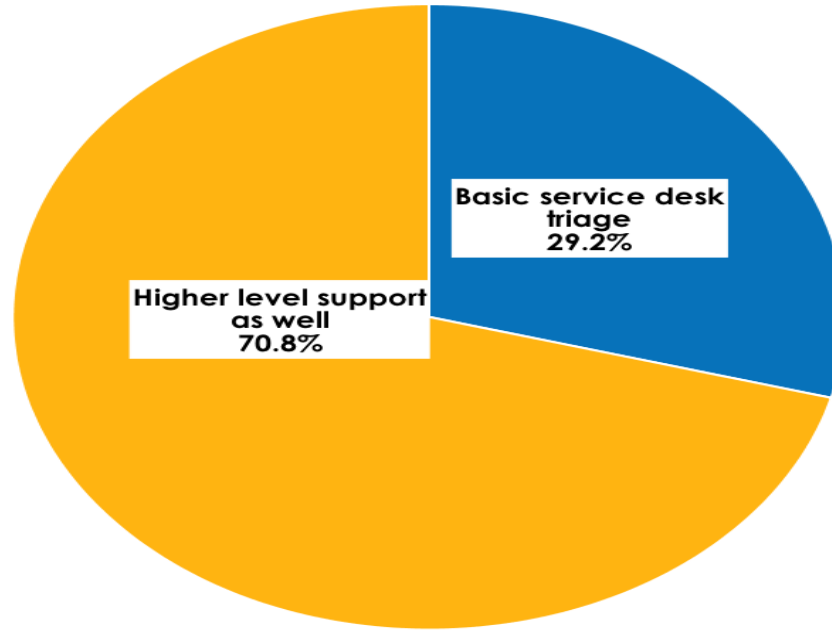
Nearly Two-Thirds Integrate SaaS to Internal

Current State of SaaS-to-Internal Application Integration

Currently Using 59.1%

No Plans 22.7%

Evaluating 18.2%

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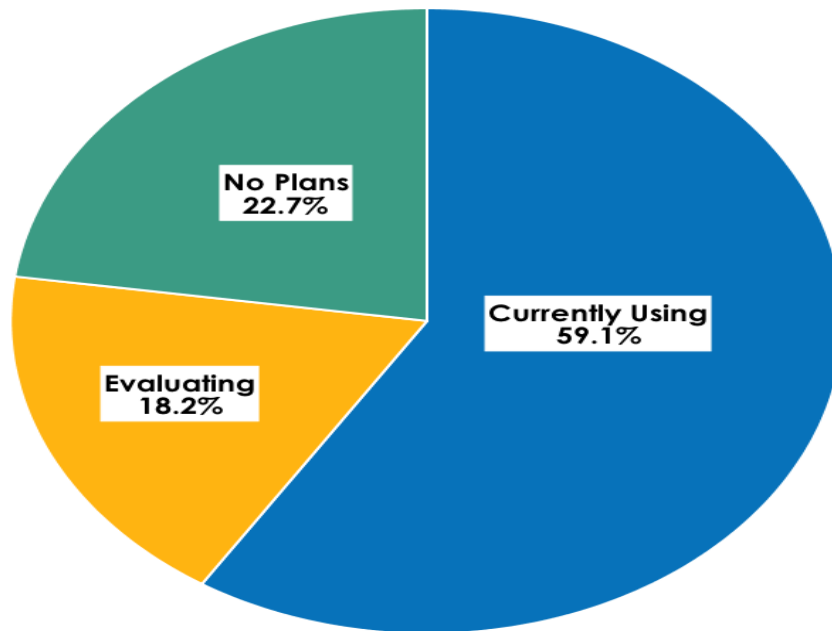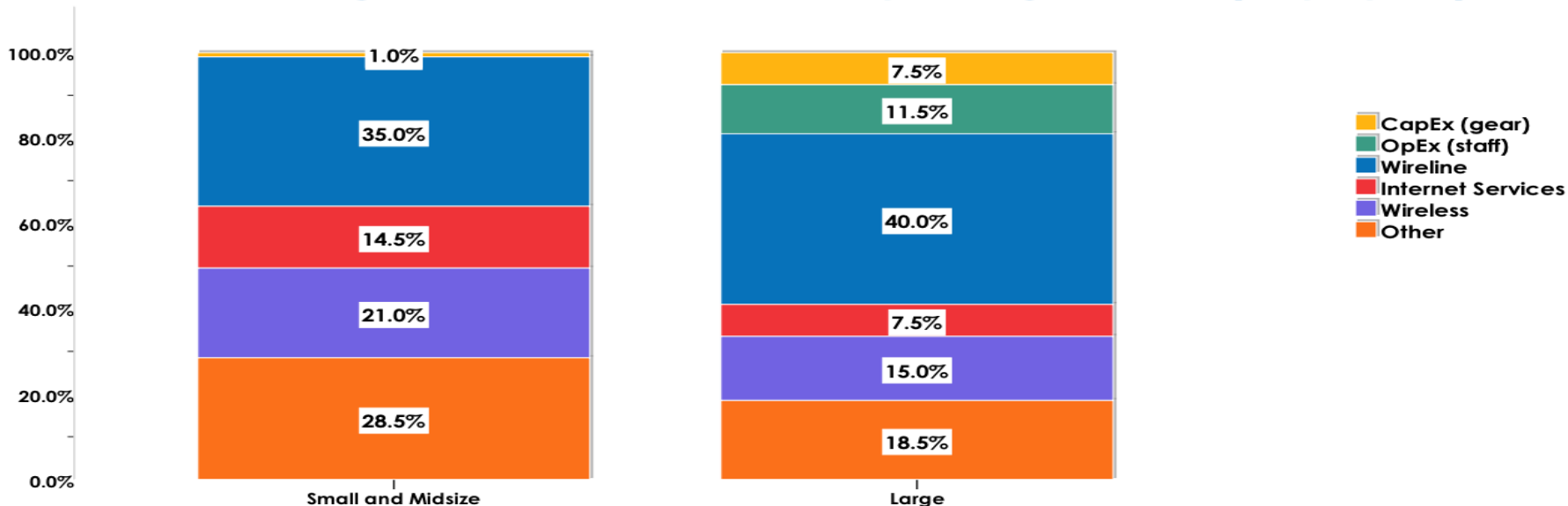
Mobility Craze

- More than 30% of organizations leveraging mobile hotspots
- More than 50% plan on buying apps (COTS/SaaS) by EOY 2015
- App spending trumps Enterprise Mobility Management (EMM) spending
  - Fifty-six percent of companies increasing mobile app spend (by mean of 49%) vs. 42% for EMM (38% mean)
- MDM increases in adoption for fourth consecutive year
  - In 2011, 21% of companies leveraged MDM, 58% will adopt MDM through 2015
- Cloud EMM deployments are on the rise
  - Cloud-based MDM beats on-prem (47% vs. 44%); on-prem and cloud MAM are equally adopted (47%)
- WLAN continues to grow as primary connectivity mode
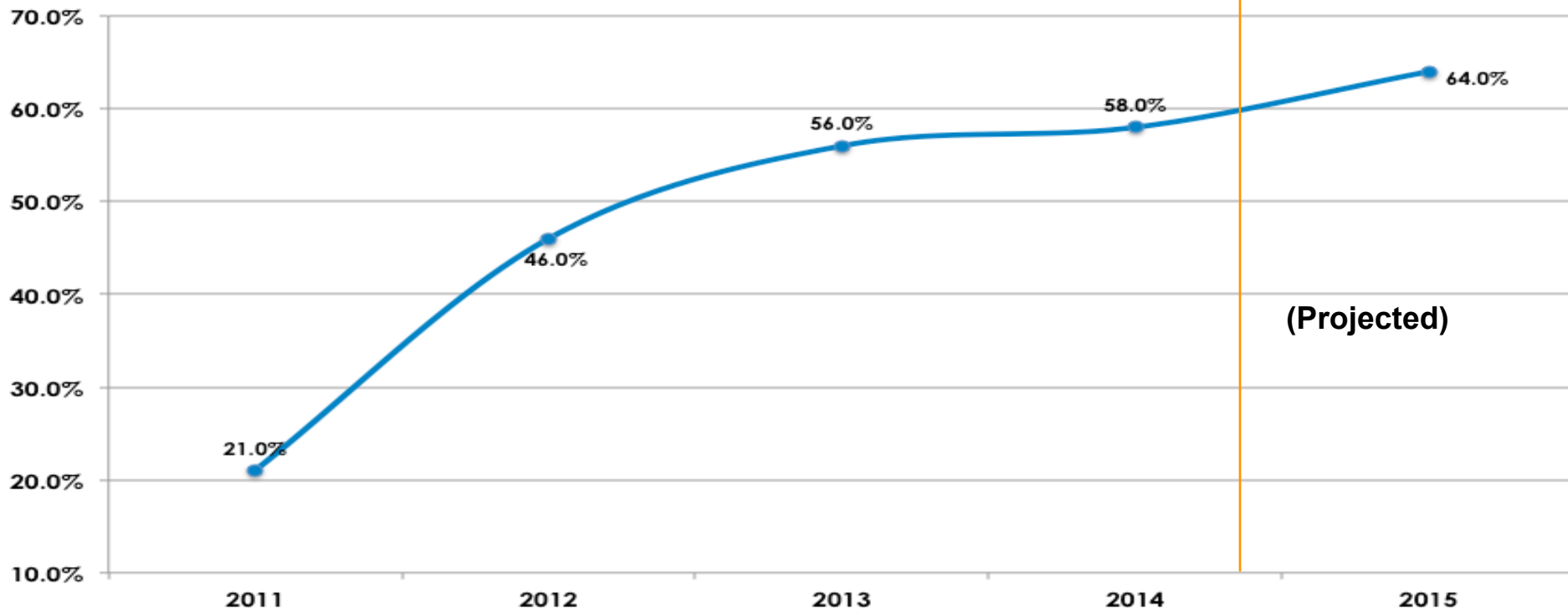 - WLAN has grown nearly four (7.6% to 28.9%) times as primary. More connectivity, more dependence on the network

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Percentage Breakdown of Network Spending and Size (Employees)

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MDM Continues to Trend Upward

MDM Adoption
(2011-2015)

70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%

21.0%
46.0%
56.0%
58.0%
64.0%

(Projected)

2011   2012   2013   2014   2015

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MDM Delivery Method

- Hybrid 9.4%
- Cloud 46.9%
- On-Prem 43.8%
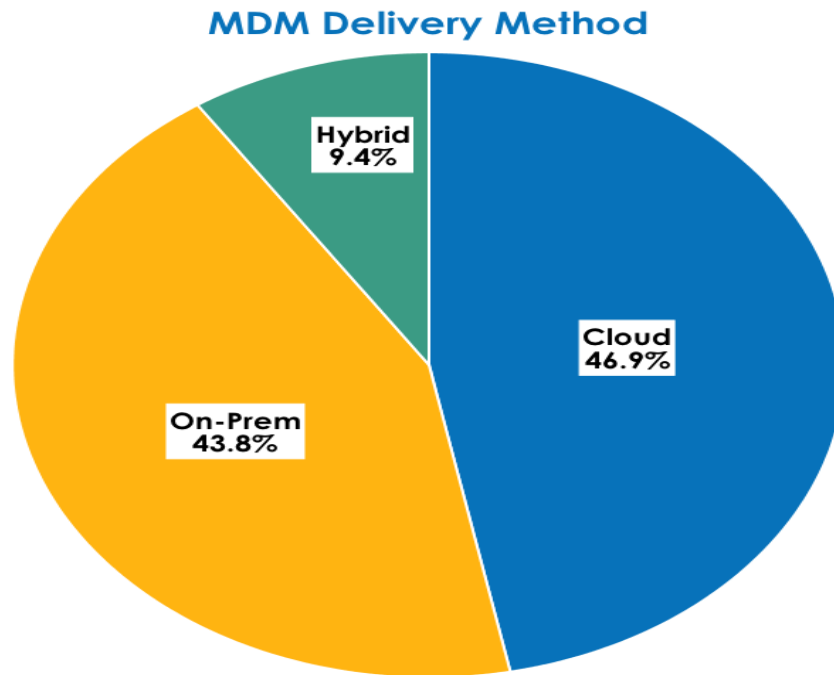
Wearables Gain Some Traction

Wearables Adoption

- Currently Using 3.4%
- Planning for 2014 3.4%
- Evaluating 17.2%
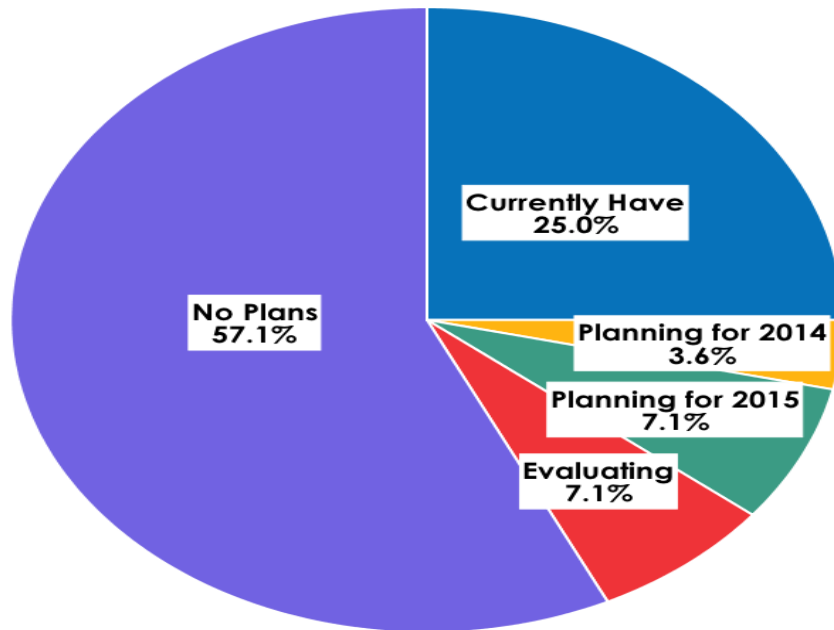- No Plans 75.9%
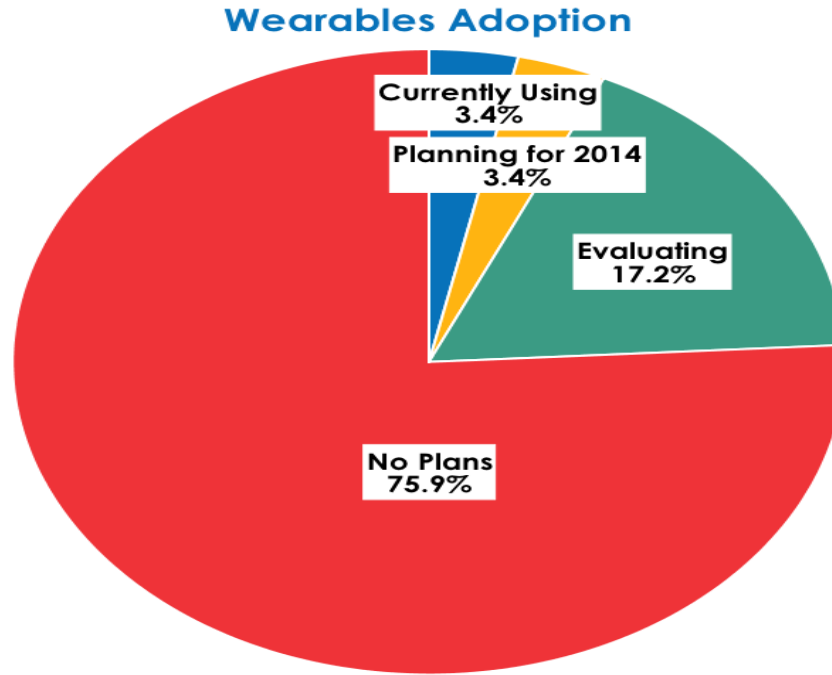
More Than a Third of Companies will Deploy M2M Through 2015

Machine-to-Machine Adoption

Main uses:
Industry-specific
Security systems
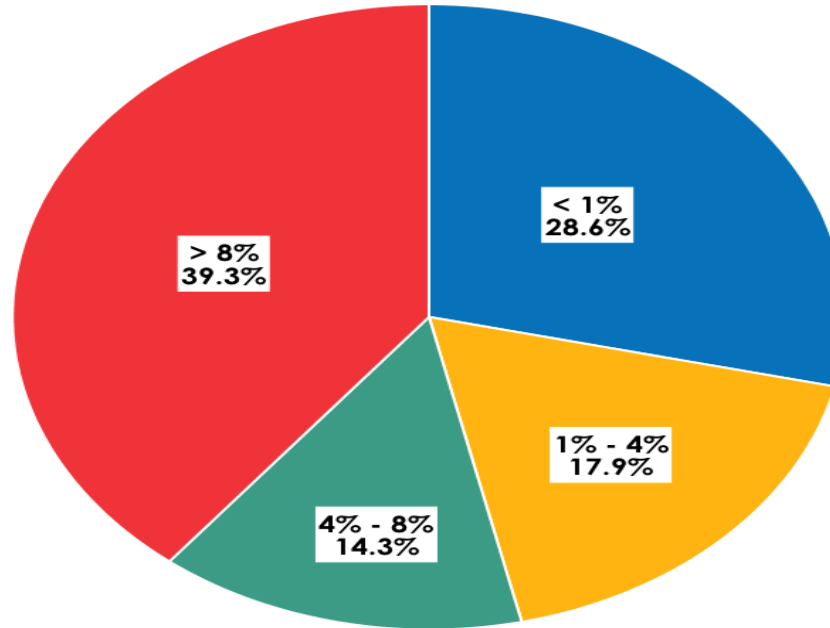Field operations
Building facilities

No Plans 57.1%
Currently Have 25.0%
Planning for 2014 3.6%
Planning for 2015 7.1%
Evaluating 7.1%

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NTIPDs: More than Half Have at Least 4%

IP Addresses for Non-Traditional Devices

- Building Automation
- Security Systems
- Sensor Networks
- Supply Chain Automation
- Medical Devices

Percent of IP Addresses for Non-Traditional Devices

Mean: 9.1%
Median: 5%

< 1% 28.6%
1% - 4% 17.9%
4% - 8% 14.3%
> 8% 39.3%

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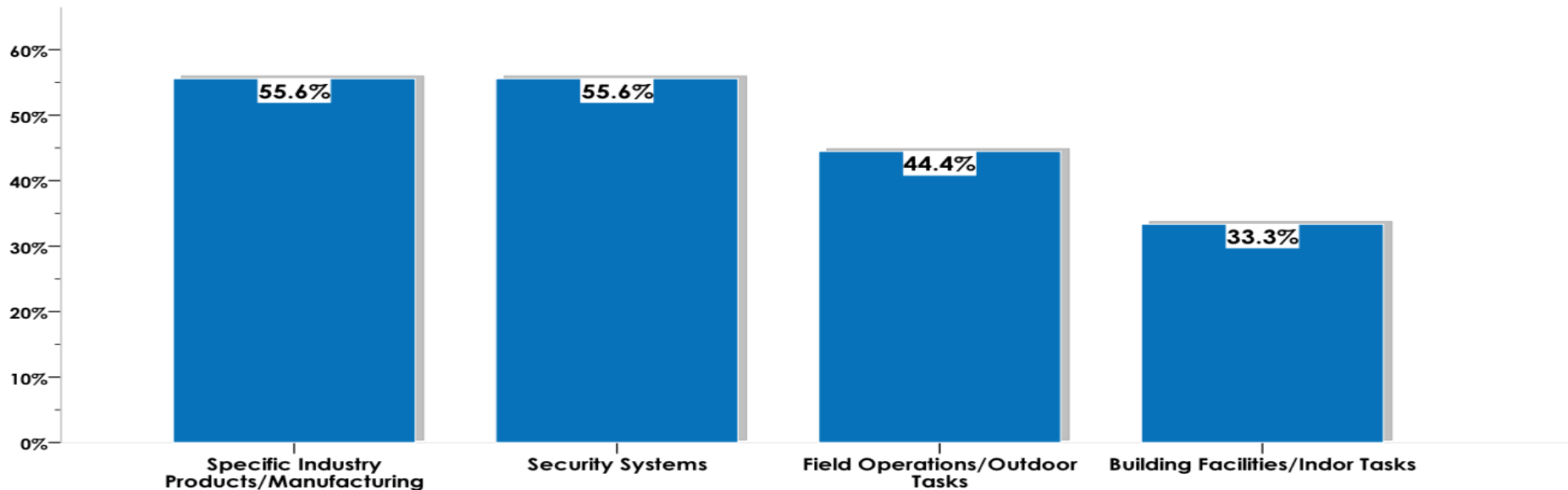
Sample Initiatives Machine-to-Machine

Company	Owner	Description	Driver
Global engineering	IT, manufacturing	Factory machines (robots) talk to one another at all locations to coordinate construction of product. Communicate with supply chain to order new materials	Faster speed to market; external customer demands
Insurance	IT	Testing with 40 employees. Device plugged into car that measures results of their driving, delivers real-time	Better drivers get lower insurance rates
Logistics	Customer service	Package tracking sensors ensure trucks are at right temperature for product. Can monitor, change in real-time	Improved customer service via longer-lasting perishable products
Manufacturing	Product development	Sensor in water coolers residing in customer locations calls office to schedule filter changes	Service efficiency, customer satisfaction
University	IT, Student services, metro bus	Sensors installed in buses transmit to mobile apps real-time location of buses.	Student safety, convenience, directions

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Recommendations

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Conclusion

- Be deliberate about trusted advisorship
  - Higher budgets, more respect, more interesting projects
- But you have to get the core delivery right first
  - Solid network infrastructure, fully optimized
  - Support businesses with right apps; anticipate network impact
  - Right technology partners
  - Track SDN as an emerging technology: It holds great promise!
- Regularly track changes in app demand and usage
  - Many drivers on the network now—knowledge is power
- Leverage IT's newfound strength
  - Goal: Get a seat at the table
  - IT becomes more strategic, vital to the company

Thank you!